

APPLICATION

FOR

UNITED STATES LETTERS PATENT

TITLE: UPLOADING PERSONAL AGENTS TO PERSONALIZE
NETWORK SERVICES

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Background

5 Commonly a network service provider provides a variety
of enhanced services to telephone service subscribers. For
example, conventional telephone networks may provide a call
forwarding function, enabling users to enable or disable
the call forwarding function. In addition, network
0 services currently include the ability to set a call
forwarding number. Likewise, current network services
allow the user to specify call forwarding triggers such as
"no answer", "busy", or "always". Similarly, network
service providers may allow limited personalization of
5 voice mail and other call services as well.

To receive enhanced network services, the subscriber must accept certain constraints associated with the provision of such services. While network service providers may allow limited personalization, they do not allow more general personalization by their subscribers.

In many cases, users of telephone systems can greatly personalize the way local systems operate. A range of services may be programmed into local PBX systems for example.

Thus, there is a need to enable network service providers to provide personalized services to their subscribers.

Brief Description of the Drawings

5 Figure 1 is a schematic depiction of a network in accordance with one embodiment of the present invention;

 Figure 2 is a flow chart for personal agent software in accordance with one embodiment of the present invention; and

10 Figure 3 is a depiction of network download software in accordance with one embodiment of the present invention.

Detailed Description

Referring to Figure 1, a telecommunications network 10 may be wired or wireless. That is, the network 12 may
15 communicate with subscriber units 14 over a wireless or land line based system 16. In the case of wireless communications 16, the subscriber unit 14 may be a wireless telephone and in the case of a land line system 16, the subscriber unit 14 may be a conventional land line
20 telephone. The network 12 may provide telephone communication services as well as enhanced services for those subscribers who desire them. In one embodiment, the network 12 may include switching equipment and may be packet-based or circuit switched. In some embodiments, the
25 network 12 is operated by processor-based systems that

include a storage 20 that may store software 10 and 26. In addition, the network 12 may communicate with a database 25.

Referring to Figure 2, the network 12 may receive a software upload from a subscriber unit 14 to enable personalization of network services. As an example, a subscriber unit 14 may upload personal agent software, in an appropriate format, to enable the network 12 to provide personalized call forwarding services. Unlike conventionally implemented network call forwarding services, the subscriber may, in fact, provide the software to implement relatively complex functions. The software is then actually executed by a processor-based system associated with the network 12.

Other call functions that may be implemented by personal agent software may include call recording, call screening, call logs, voice mail, call waiting or other incoming call handling functions, reporting call charges, directing incoming calls, selecting routes, personalizing ringers, caller identification, conference calling, and automatic dialing, to provide some additional examples.

Thus, personal agent software 10 provided by the subscriber units 14 may ultimately be stored on the storage 20. A check at diamond 11 determines whether a network event has occurred. A network event may be one of a plurality of events such as receipt of a telephone call,

offers and which may be utilized by uploaded software. A check at diamond 30 determines whether subscriber unit 14 is ready to upload personal agent software. If so, the personal agent may be attached to the appropriate events and stored as indicated in block 32.

Thus, a subscriber unit 14a or 14b may supply personal agent software to the network 12 to implement personalized network originated services. In this way, the subscriber may provide the personalization as desired. The network 12 then merely detects the occurrence of events which trigger the provision of personalized services, runs the personal agent software and in some embodiments, provides primitives to implement desired services. However, how those primitives are called, the events that trigger the provision of the primitive services and the way those services are provided may be personalized by the subscriber.

In some cases, the subscriber may actually write the personal agent software. In other cases, the subscriber may purchase available software, using graphical user interfaces or other tools to appropriately personalize the software, and then upload the software to the network 12. The provision of the personal agent software may be over the appropriate network connections 16 or may be by way of an auxiliary connection. For example, in connection with a telephone network, the providing of the personal agent

software may be done over a computer network such as a local area network, a metropolitan area network or the Internet. For example, in one embodiment, a subscriber may access the network provider's web site and may simply provide the agent software through that web site. Alternatively the software may be uploaded over the communication network 12 itself.

While the present invention has been described with respect to a limited number of embodiments, those skilled in the art will appreciate numerous modifications and variations therefrom. It is intended that the appended claims cover all such modifications and variations as fall within the true spirit and scope of this present invention.

What is claimed is: